Miscellaneous official correspondence and other documents relating to service in World War I

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W17010—6966 1 pr, 7 3/16 S. B., Ltd. Forms/W. 3241/1

INSTRUCTIONS.

- 1. The receipt will be detached from the book by the Cashier, who will affix his office stamp to, or endorse the counterfoil.
- 2. If the payment is to be made to a brother officer, the form on the back of the receipt must be completed, and the book presented to the Cashier.
- 3. Officers must state the Unit to which they belong, and not that to which they are attached.

EXTRACT FROM G.R.O. 3524.

(i.) Officers are only entitled to an advance if at the time there are funds to their credit with their agents to meet it, and an officer who applies for an advance will be taken to guarantee that it will be met when presented to his agents. Unless an officer has reasonable grounds for expecting that an advance will be met he is forbidden to apply for one.

(ii.) No officer is permitted to be in possession of more than one advance book. If at any time he should find that he is in possession of any additional book, containing any complete forms, he will return

it at once to a Base or Field Cashier.

(iii.) No officer is permitted to draw more than three advances in any one calendar month, or more than one advance in any one day.

(iv.) The receipt forms in this book are not cheques, and are not negotiable. They may only be

used for drawing advances from a Cashier, and if used for any other purpose will be worthless.

(v.) When an advance is drawn the receipt form will be detached from the book by the Cashier, who will affix his office stamp to, or endorse, the counterfoil. The removal of the counterfoils from the book is forbidden.

(vi.) If the payment is to be made to a brother officer, the form on the back of the receipt must be completed. The book itself must be presented to the Cashier.

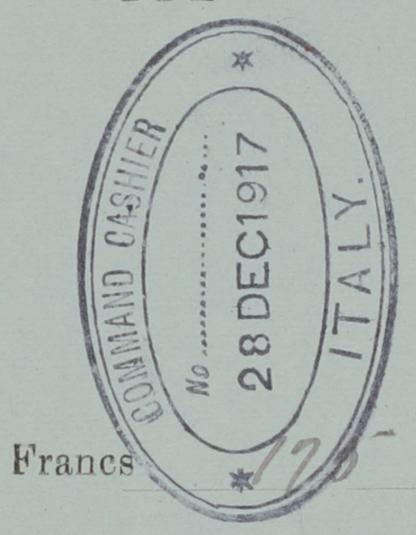
(vii.) Officers must state the Unit to which they belong, and not that to which they are attached.

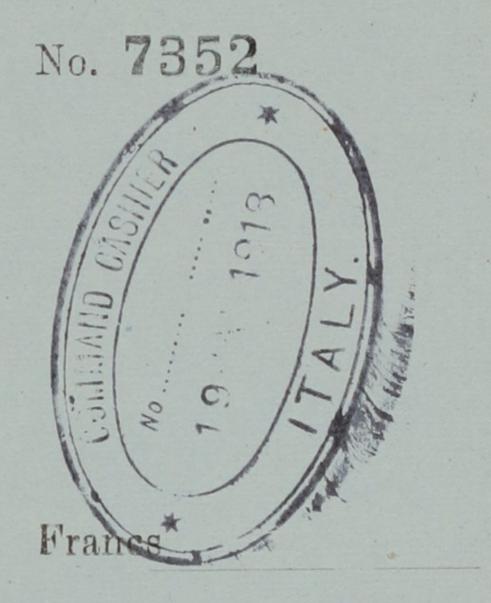
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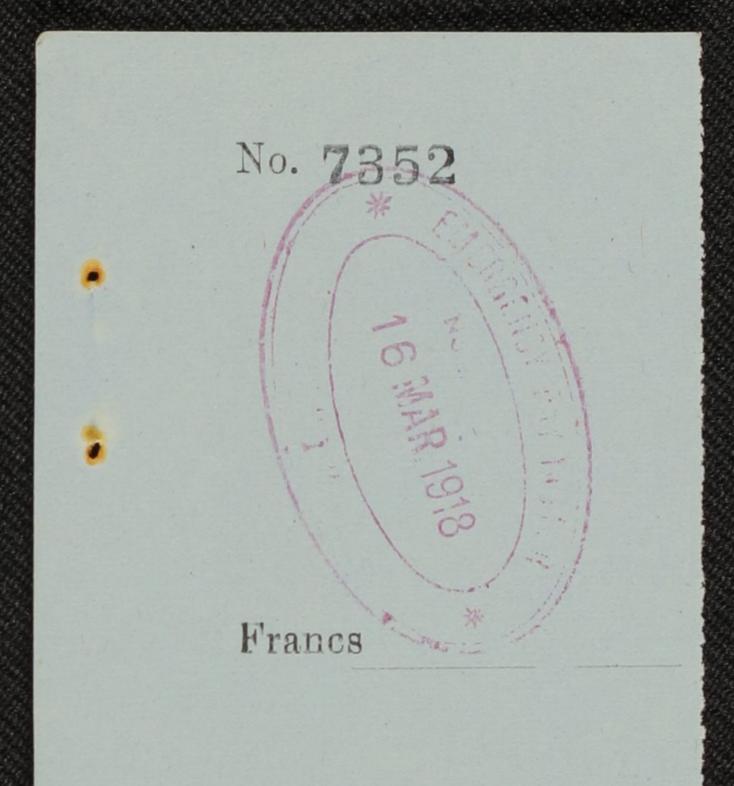
No. 7352 Franc

Francs 175

Date 24. 12.17







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	Rank and Name (In BLOCK letters) Unit	Agent:—Messrs. Holt & Co.
Francs	the sum of francs. (Figures)	
Date	Date	Signature.

N.B.—This authority is only valid when in favour of an officer.

I authorise

to receive

francs

on my behalf.

(Signature.)

MEMORANDUM

ON THE

EMPLOYMENT OF VACCINES

IN CONNECTION WITH

WOUND INFECTIONS.

BY COLONEL SIR ALMROTH WRIGHT, M.D., F.R.S., C.B.

So long as we do not realise that all wounds are infected, and believe that wounds can when infected be sterilised, or at least kept clean, by antiseptics, we do not require to trouble ourselves about vaccines against wound infections.

But as soon as we have had our lesson, and know that every wound is infected ab initio, and that antiseptic applications cannot reach the microbes in the depth, our whole outlook changes. We see that the patient's blood fluids and white corpuscles are the only bactericidal agents we can count upon, and that it is our business to bring these into application. This involves, first, the provision of mechanical drainage; secondly, activation of the lymph flow by hypertonic salt solution; and finally, the promotion of leucocytic emigration by physiological salt solution. But this programme is in one respect incomplete. The bactericidal powers of the body ought also to be reinforced. We can do this by vaccines.

Let us ask ourselves what are the indications for their use, first, however, clearing up certain points:—

Question as to what microbes should be employed in Vaccines for Wound Infections, and enumeration of the Vaccines which are issued for use.

The proper procedure will be to take for our vaccines not all the various microbes in stagnating pus—for most of these

can be eliminated by efficient mechanical drainage and lymph lavage—but only those which infect every wound, and have the power of growing in unaltered blood fluids. These are, arranged in order of frequency, the streptococcus fæcalis (or enterococcus); the staphylococcus; the bacillus aërogenes capsulatus of Welch; and the streptococcus pyogenes.

The first named will, given a minimal implantation, establish itself and grow in an astonishing fashion in lymph and normal serum. The staphylococcus, with a somewhat heavier implantation, will grow, but the culture will be less luxuriant; and finally the bacillus of Welch—the bacillus of gas gangrene, when furnished with anærobic conditions and implanted sufficiently heavily to let its ferments come into play, will pullulate in lymph and blood evolving large quantities of gas.

Along with these microbes there will every now and then be conveyed into the wound the streptococcus pyogenes of erysipelas. This also will with minimal implantations yield luxuriant cultures in serum.

To deal with the different types and stages of infection which may present themselves, the following series of vaccines is provided:—

Anti-gangrene Vaccine.—This is a vaccine made from cultures of the bacillus of gas-gangrene, the streptococcus fæcalis, and the staphylococcus † all obtained from wounds.

Anti-sepsis Vaccine.—This is made from cultures of the streptococcus fæcalis and staphylococcus, obtained from wounds.

Streptococcus Vaccine.—This is made from cultures of streptococcus pyogenes obtained from cases of erysipelas and diffuse cellulitis.

Staphylococcus Vaccine.—This is made from cultures of staphylococcus obtained from furuncles and wounds.

[†]From certain samples of this vaccine the staphylococcus has, as possibly dispensable, been omitted.

Anti-Gangrene Vaccine.

General Indications for its employment in the prophylaxis of wound infections.

We have seen that the three species of microbes of which this vaccine is compounded are carried ab initio into every wound.

This being so, the question whether any or all these will grow out to such an extent as to produce serious infection will come up in dealing with every recently wounded man. And the answer will depend upon: (a) the character of the implantation—a scattered sowing into the lumen of a perforating flesh wound being the least, and a concentrated sowing into the substance of the tissues being the most serious form of infection; (b) the quality of the blood fluids normal blood fluids offering less resistance to microbic growth than those with increased antitryptic and bactericidal power; and (c) the amount of leucocytic response—microbic growth being encouraged when the blood supply is cut off, and the leucocytes are repelled by microbic toxins; and the destruction of microbes being promoted when the blood supply is maintained, and the leucocytes are attracted instead of being repelled by the toxins.

Now, in each of these respects the patient will be benefitted by the removal of the projectile and other foreign matter, and the draining and lymph lavage of the wound. The volume of infection will be diminished; blood and lymph will find freer access to the microbes; bacterical toxins will be diluted; and the antibacterial power of the wound discharges will be maintained intact—for the exuding blood fluids will continuously neutralise trypsin set free from the disintegrating pus cells.

But the opening up and lymph lavage of the wound is not undertaken till the patient reaches the Casualty Clearing Station, and in some cases not till he arrives at the hospital at the base; and in the interval the progress of the infection will be opposed only by whatever antibacterial influence the normal blood, working at a great disadvantage, can exert. As a result, we have in practically every wound a serious bacterial infection, and it would seem that, as things now are, nearly every microbe which is carried into the wound succeeds

in growing out and establishing itself. More than that in a not inconsiderable proportion of cases we have the microbic infection spreading into uninfected tissues or directly into the blood stream—giving rise to gaseous gangrene, cellulitis, or septicæmia.

There is reason to think that much of this sepsis could be prevented by administering anti-gangrene vaccine at the First Aid Post, immediately after the wound has been inflicted.

Reasons for thinking that prophylactic inoculation with antigangrene vaccine would exert a favourable influence upon the course of wound infection.

We are here entitled to build in the first place upon the results of prophylactic and therapeutic inoculation generally; secondly, upon presumptions founded upon a study of the individual microbes and the results of vaccine-therapy as applied to these; and, thirdly, upon the results of spontaneous auto-immunisation as shown by the effect exerted upon the wound infection and the healing of the wound. The evidence from these sources may be summarised as follows:-One can, by the inoculation of vaccines give increased resistance to all ordinary pathogenic microbes. One obtains one's best results by prophylactic inoculation; one's next best, by inoculations undertaken in localised infections before any constitutional symptoms develop; and one has every reason to be satisfied also with the results obtained in more advanced stages of purely local infections. On the contrary, one achieves comparatively little, if anything, in septicæmias and extensive imperfectly drained wounds; and generally in massive infections accompanied by heavy auto-inoculations.

In the light of this experience one ought in inoculating the recently wounded—for this would be inoculating before the implanted microbes have begun to grow—to obtain, always with the reserves and limitations particularised below, very satisfactory results.

Approaching the question of inoculating against wound infections now from quite a different side we are, in connection with the gas gangrene microbe entitled to draw favourable augury from the fact that the microbe will not cultivate

itself in the blood in vitro unless we make a very heavy implantation. A little further reinforcement of the antibacterial power of the blood ought therefore to make it refractory to infection. In connection with the staphyloccoccus and streptococcus we have more than a priori argument. have here the eminently favourable results of vaccine therapy as applied to these micro-organisms. Further warranty for the utility of the inoculations here proposed is furnished by a concurrent study of the blood of the wounded and their rate of progress. The popular and erroneous view is that a wound is a strictly local affection, and that as such it can be affected only by local applications. In reality, however, the events at the local focus are in wounds, as in every other bacterial infection, profoundly modified by the condition of the blood. Where the wounded man has made inadequate immunising response, he suffers from continued pyrexia, his wound heals slowly, and he not unfrequently develops metastatic complications and septicæmia. Where he makes good immunising response, the growth of microbes in his wounds is inhibited. and we have rapid and successful healing.

What can we not, and what can we, reasonably expect from the prophylactic inoculations proposed here.

In all destruction of microbes by the bactericidal agency of the blood, and by consequence in all protective immunisation, it is a postulate that infection cannot be checked in dead spaces filled with pus, and in tissues choked by inflamatory exudation; or, indeed, anywhere where active blood fluids and living leucocytes cannot penetrate. It follows that we shall achieve nothing in those regions of the wound where the blood supply has been interrupted, but it will be a great point gained if we can succeed in stamping out and preventing the spread of infection into those regions to which the blood stream continues to find access. We cannot protect dead tissues, we may hope to protect the living. With regard to the actual surface of the wound and the superficies which will be added when the surgeon lays it open, a priori consideration, and experience with the vaccine therapy of infections of mucous membranes and naked surfaces, show that a denuded surface must always, pending the taking of effective steps to cover it in, be liable to invasion from without, and that we cannot from a single inoculation expect a lasting effect. We may, however, hope temporarily to diminish the superficial infection.

Instructions as to the method of conducting the prophylactic inoculations with anti-gangrene vaccine.

The requisites for carrying out the inoculations in the First Aid Post consist only of a sterile syringe in a metal case, the vaccine in a rubber-capped bottle, and some antiseptic. All that is necessary to do is to puncture through a drop of antiseptic placed on the rubber cap; to draw off the required dose of 0.5 cc; and then to inject into the subcutaneous tissue remote from the wound. The syringe, if carefully put away after the inoculation, can be utilised over and over again without resterilisation, for the interior will have come into contact only with sterile fluid, and the needle will, before entering the bottle, every time pass through the antiseptic.

The vaccine produces no local or constitutional symptoms.

It is not issued for therapeutic use, for the bacillus of gangrene can always be expelled from a properly-drained wound by lymph lavage; and by the time we have clinical evidence of the spread of this microbe into the tissues it is probably too late to do anything by vaccines.

Antisepsis Vaccine.

This vaccine, made as it is from the streptococcus faecalis and the staphylococcus—the two microbes which linger most obstinately in the wound-may be employed with quite special advantage when we have succeeded in reducing the infection to quite small dimensions, and are thinking of partially or completely closing the wound by secondary suture. In this operation, even with the wound at its cleanest, we shall infallibly be burying a certain number of microbes in the tissues, and shall by consequence have conditions comparable to those obtaining at the time of the infliction of the wound. The same kind of prophylactic procedure as was appropiate in the one case, will therefore apply in the other. And just as, in our first prophylactic procedure, we may reasonably hope to restrain microbic growth except only in those regions where the blood supply is cut off; so here, we may reasonably hope to do so, except only in such dead spaces as we may inadvertently leave in sewing up the wound, and also at those points where we may obstruct the circulation by the undue tension of our sutures.

A dose of 0.5 cc, inoculated two days before undertaking the resuture will be appropriate.

The vaccine, in a dose of 0.5 cc, may be also employed with advantage where septic blisters have been raised by the application of too strong antiseptics to the skin in the neighbourhood of the wound.

Lastly the vaccine may, if desired, be applied to the treatment of the ordinary imperfectly drained suppurating wound. Here however there will be a large number of other microbes at work, and there will be absorption from the wound with auto-inoculations; and it will be impossible to find out whether one is doing any good.

Streptococcus Vaccine.

As explained above, the streptococcus in the two foregoing vaccines is the *streptococcus faecalis*, the commonest infective microbe of wounds. The vaccine here in question is made from cultures of the *streptococcus pyogenes* obtained from cases of erysipelas and cellulitis. It is issued for use in cases where an erysipelatous blush or lymphangitis develops in connection with a wound, a septic scratch or cut, or onychia. It will be well here to commence with a dose of one to two (the more virulent the infection the smaller ought to be the dose) million streptococci; to give the same, dose again at the end of 48 hours; and, when things have quietened down, to advance to five or more millions. The beneficial effect will, in practically all cases, be very striking.

The vaccine may, if desired, be employed also in other forms of streptococcus pyogenes infection; but it will be desirable to limit oneself to small doses; and in the complicated conditions which we have to deal with in the wound, it will always be questionable whether we are really achieving anything.

Staphylococcus Vaccine.

The vaccine here in question is issued for use in those cases of unmixed staphyloccus infection. We have such pure

staphylococcus infection in many open wounds which do go deeper than the skin. Further we have them in furunculosis, whitlow, (as distinguished from onychia,) and styes on the eye. In the three last named affections we can, if we take them before pus has began to form, nearly always abort the morbid process by the injection of 100 to 200 millions of staphylococci. When pus has already formed the injection of 500 to 1000 millions of staphylococci will, provided of course that the pus can find exit, hurry on the evolution and accelerate healing. And a final dose of 1000 millions, administered as soon as the patient is well, will give useful protection for the future.





With the Season's Greetings

from

No. 2 Aeroplane Supply Depot, Royal Air Force, B.E.F. France.

XMAS, 1918.

by dem Barr I am at a loss to understand about you as you say Your jolks are willing to set Zu fre & when I applied specifical for you some weeks ago and re-applied I was told you were not available. Since for just applies, others have done So o have already left. But in the last four cases they have all reported here o have been read to leave at once. There may not be another ship for some time after the one king how (26=) but it is all rather indefinite. However I don't Think Col. Barefort will preser You this time. In set here - its your treat chemice Kundist rejunds Toussucceed Noulles 5/12. 23.4.19Captain Barr, R.A.M.C. M.O. Concentration Camp, Etaples.



With reference to your application for the post of M.O. to

a Chinese Labour Corps Repatriation Ship, -

I have on several occasions applied for you, but I understand

the difficulty was in your being set free from your present post.

Your name is noted in the office of the D.M.S., L. of C., for this duty, and I was informed verbally, three days ago, by Colonel Barefoot, that you would be the next Medical Officer selected.

The time these ships are available is very uncertain, and the

selection is usually made from among officers on the spot.

It is suggested that the best way for you to be available is to be posted to this Unit, where, until the next boat comes, you could fill the duties of Depot Medical Officer.

Noyelles. 23.4.19.

Lieut-Colonel, R.A.M.C.

O.C., No 3 Native Labour General Hospital

Directir General Medical Services, British Armies in France. Forwarded and recommended for such action as you may consider necessary. sd. D.M.CORBETT. Major, for Major General, A.P.O.,S.1. 26/3/1919. D.M.S., L. of C. D.M.S., L. of C. Will you please say if you can utilize this Officer on thip corrying Chinese repatriates.
To be returned. Sd. C.W.RITCHIE. Major, for Durector General Medical Services, 30/3/1919. British Armies in France. S.M.O., C.L.C. Forwarded. Will you please report in accordance with preceding minute. To be returned. Sd. D.M. CORBETT. Major, for Mgor General, A.P.O., S'1. 1/4/1919. D.M.S., L. of C. D.M.S., L. of C. This officers services could be utilized for a Repatriation Ship. No definite date of the next sailings has been announced and Capt. J.M.Falkiner is marked for the first boat, but Capt. Barr could be sent in Medical Charge of the following boat. Sd. G.D. GREY. Noyelles. Lt. Col., R.A.M.C., 2/4/1910. Commdg. No. 3 Native Labour General Hospital. Director General Medical Services, British Armies in France. Returned. Please see remarks of O.C., No. 3 Native Labour Gen. Hpl. Sd. D.M. CORBETT. Major, A.P.O.,S.1. 4/4/1919. for Major General, D.M.S. : L. of C. D.M.S., L. of C. Please ascertain if this will meet with the wishes of Captain Barr. To be returned. Sd. S.BOYLAN SMITH. Lt. Col. for Director General Medical Services, 8/4/1919. British Amies in France .

DEMS. DG./208/7/288. DMS.Lof0. M.1/4537/18. NO.3 Ntve.Lab.Gen.Hpl. Rep/A/131. D.D.M.S., Etaples. The attahed correspondence is forwarded for your information.
Please ascertain from Captain Barr whether he is willing to proceed as stated. Please return. Sd. D.M. CORBETT. Major, for Major General, D.M.S., L. of C. A.P.O.,S.1. 9/4/1919.

Hear Box Show an unspaid copy of ledus from some and shows and show about your Blinia Trip. If you like to with me a chit To A.I.B. Eshal you are alle to go I writing to go deemed get a hit of a move on before you come to ach.

But as far as this goes it is only unspicial even-portuice.

Associated

Repatriation Records Office. Morn Hill, Winchester. 7/5/19. Capt. J. Fukton Barr, Rand de Fliers. Etaples, B. E. F. In reply to your letter of the 30th., ult., I beg to inform you that your claim for repatriation under group 45A has been approved. Passages under this group are not guaranteed within six months. If therefore you are desirous of an early passage to Japan, I should advise you to make application to have your claim transferred to group 45B which is immediate passage. Under this group you would not be demobilized until reaching your destination. a. Dellos Haurighn Capt. for Lt.-Colonel Officer i/c Repatriation Records EEB/ADH. In reply to this letter please quote Reference No. S.S/3664 and address your envelope to the "SS" Secton of this office.

er must be Prepaid.

.. His Majesty's Service.



Capt. J. Fulton Barr, R.A.M.C.

Rand de Fliers,

Etaples,

B. E. F.

C. m. &

WAR OFFICE.

If undelivered, to be returned to the Officer Commanding at the place shown in the post mark of origin.

S

M. & S.

Repatriation Records Office,
Morn Hill,
Winchester.

15/5/19.

Capt.J.F.Barr, R.A.M.C C/o D.D.M.S. Etaples.

In reply to your letter of the 7th., inst., I beg to inform you that your claim for repatriation has been

altered to group 45B.

I have forwarded a War Office letter dealing with repatriation to the D.D.M.S. Etaples. You should make application to him to be sent to the Repatriation Camp Pirbright as alloting of passages under group 45B is not done until those claiming repatriation under this group have reported and been taken on the strength of the camp. I think it would be to your advantage if you could arrange to be posted to the above mentioned camp.

Capt. for Lt.-Colonel Officer i/c Repatriation Records.

a. Dallos Hannylong

EEB/ADH.

IMPORTANT

IN REPLYING TO THIS
LETTER PLEASE QUOTE
THIS REFERENCE NUMBER

S.S/ 4307

Address your envelope to "S.S" Section.